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Abstract

INTEGRATING NUCLEAR POWER INTO FRANCE'S ELECTRICITY NETWORK

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Compared to fossile thermal power, nuclear power involves a higher capital cost, at least in its present stage of technical development. Nuclear power stations are therefore only preferable when they can operate for long periods.

Study of the possibilities of developing this new form of energy must be based on the load curve of the network.

Until now, hydro and thermal power have appreciably shared the task of supplying the French network. Allowing for its limited potential development, hydro power is now expanding at a constant rate, whereas consumption is continuing its exponential increase. The proportion to be supplied by fossile-based and nuclear fuel thermal power will therfore rise.

Hydro generating methods will, as far as possible, be more and more directed towards the generation of small amounts of power. Over-equipping of existing power stations will also contribute towards proper operation of thermal and nuclear station, by supplying peak loads.

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load diagram is about 2, the possibility of integrating basic nuclear power naturally involves no problem at present. It has been verified that, even with the highest possible expansion which may reasonably be expected for this power, it will not exceed the zone of maximum use during the next twenty years. It is therefore not the requirements of the load curve that are now hindering rapid development of this new source of power, but rather the uncertainly, altough less felt today, as regards the physical and economical performance of the new power stations.